

ABSTRACT

A reference sample for testing fire detectors and a method of testing utilizing the reference samples. The reference sample comprises a fused mixture of pellets of the plastics usually found in aircraft cargo holds, with a heating element embedded in the sample. The pellets are in a plurality of layers with the composition of each layer being homogeneous but the thicknesses and porosities of the layers differing from each other. When the heating element is energized the layers of pellets, which have previously been fused into porous masses, begin to smolder, thereby generating a smoky atmosphere that as nearly as possible simulates the atmosphere in an aircraft cargo hold when there is a fire in the hold. In addition, a flammable liquid can be poured onto the sample and ignited, simultaneously with the energization of the heating element, by a separate ignition source to provide a flaming fire atmosphere.